

ABSTRACT

A server and a computer are connected to a network. User data may be used to establish a state between a server and a user operating the computer. Secure network user states includes creating a first key from a received user key; encrypting user data with the cryptographic key; storing the encrypted user data in a cookie; and sending the cookie to the computer; such that subsequently, a secure state between the server and the user is established by receiving the cookie and the user key from the computer; creating a second key that matches the first key; decrypting, using the second key, encrypted user data extracted from the cookie; and establishing the secure state based on the decrypted user data. A key is created in any repeatable manner, which mathematically must include at least one insertion or deletion. Optionally, user data may be seeded to heighten security of the state.